

## *FOREST RESOURCES*

### Aesthetic and Scenic Values

Washington's motto is "The Evergreen State." For most Washington residents, living in the Evergreen State means living and working in or near forests. Nearly three-fifths of the total land -- 90 percent of publicly owned and 36 percent of privately owned -- are forested. Most of the state's cities, including 17 of the 20 largest, are surrounded by forests. The vast majority of the state's population -- 95 percent -- live in 35 out of 39 counties that contain some forested lands. Eighty nine percent of the state's households participate in sightseeing and picnicking as recreational activities. In 1990, Washington residents made 13.2 million person visits to state attractions.

In 1990, Washington tourism income totalled \$5.3 billion. The tourism industry employed 93,000 people who earned \$1.2 billion. Tourism contributed \$222 million in state taxes and \$13.9 million in taxes to counties and local communities. Tourism's importance is growing dramatically. Since 1980, annual income has increased \$3 billion providing 33,000 more jobs.

The aesthetic value of Washington's forests is a major attraction. Washington contains three forested national parks and numerous national recreational areas and monuments, known throughout the nation and world. In 1990, 21.2 million people from other states and countries visited Washington. Scenery was cited by 90 percent as the reason for the visit. Accessing these areas requires travel through Washington's federal, state and private forest lands. Automobiles were the primary travel mode for 70 percent of the people who visited the state in 1990.

The forest lands' aesthetic values affect visitors' perceptions of quality of experience and are often the basis of visitors' and citizens' judgements regarding stewardship of the state's forest resources. More residents and out-of-state tourists are becoming concerned with the aesthetic impacts of population growth and traditional forest management practices along the state's two interstate freeways. Nearly all people travelling to major cities or points of interest travel these freeways.

Interstate 90 -- which runs from Seattle to the Idaho border -- passes through the heavily populated and forested Puget Sound Basin on the west side of the Cascade Range. It continues east through the Cascades and across Columbia Basin's farm lands to the pine forest region of Northeast Washington. Interstate 5's north-south route -- between Oregon and Canada -- bisects seven of the state's eight most rapidly urbanizing counties, crossing the forested Cascade foothills and Puget Sound lowlands. Population growth along the I-5 and I-90 corridors, west of the Cascades, is a major concern to residents and travelers.

Urban growth and clear-cutting in the view shed are areas of concern along I-90. Interest is especially intense in eastern King County, Between Seattle and Snoqualmie Pass (in the Cascade Mountains). The Washington State Department of Natural Resources, King County and The Trust for Public Land are actively acquiring lands in this area to maintain forests for protection and a wide range of other purposes.

In addition to state and federal highways, Washington also maintains an extensive fleet of vehicle and passenger ferries that service Puget Sound, the state's many islands and the Olympic Peninsula. In 1989,

1,586,000 visitors rode the Washington State ferries. Travel on state ferries and the hundreds of thousands of recreational and commercial vessels on Washington's waters is enhanced by views of nearby tree-lined shores and distant forested and snow-capped mountains.

The visual impacts of population growth and traditional forest harvest methods is also a major concern in areas adjacent to the state's communities and highways. The temporary removal of an aesthetically pleasing forest canopy during timber harvest is often viewed as more disconcerting than the permanent loss of trees due to urban expansion.

Timber was the driving force in Washington's early economic development; aesthetics and quality of life are driving much of its diversification and explosive population growth. This shift can often result in local division and contention as the forest's attraction can be its own agent of destruction. Forest Legacy implemented in accordance with the Washington Growth Management Act can play an important role in protecting Washington's valuable forested lands, and help avoid local conflict.

### Fish and Wildlife Habitat

Washington's forests provide habitat for many fish and wildlife species. Fish and wildlife are valued for sport, commerce and viewing as well as for their own place in the forest ecosystems. The Northern spotted owl was listed on the state's threatened and endangered species list two years before it was listed by the federal government. The spotted owl is not the only species whose survival is of significant interest in Washington. The Washington Department of Wildlife protects many species of threatened or endangered status.

The Department of Wildlife promotes cooperative management of wildlife species of concern, including threatened and endangered species, while at the same time striking a balance with landowner needs, property rights and economic impacts. In preparing and implementing plans for recovery of endangered or threatened species, the Department of Wildlife considers, in part, the following: target population objectives, public education needs and an implementation plan which considers various approaches to recovery including mitigation, acquisition, incentives and compensation mechanisms.

In 1991, the Department of Wildlife acquired 16,000 acres of habitat to protect important sites for the peregrine falcon, bald eagle, Oregon silverspot butterfly, pygmy rabbit, western pond turtle, ferruginous hawk and other sensitive non-game species. Forest Legacy provides private landowners and the public another potential tool to augment existing wildlife protection processes.

Forest Legacy will provide a vital link in the relationship between forest commodity production and the protection of threatened, endangered and sensitive wildlife species. The consideration of existing and potential habitat values will play an important role in the selection criteria of lands nominated for inclusion in the Forest Legacy Program.

The management and protection of game and non-game wildlife is a primary concern of the state's citizens. Fifty three percent of the state's households participate in nature study, including wildlife observation, as an active form of recreation.

An additional 26 percent of the state's households engage in recreational hunting and shooting. In 1991, Washington's Department of Wildlife issued 276,409 hunting licenses. The state's forests provide habitat and available lands for hunting large and small mammals, water fowl and upland birds.

Washington's forested watersheds provide required habitat for many fish species. Fish are an important component of the state's history, culture, livelihood and recreation. Salmon, steelhead trout and many other species depend on forest-lined streams and bodies of water for rearing and spawning. In addition, forest rivers and streams provide a source of clean water and nutrition for many species which completely reside in salt water. More than a million persons each year purchase licenses to sport fish for fresh water game fish, salmon and steelhead. Each year state sport fishers catch more than 700,000 salmon.

Fishing is a very important state industry. In 1989, 222 million pounds of seafood worth \$387 million were harvested by commercial fishers. Over 5,000 commercial fishing boats operate on state waters. Nearly 4,000 operate out of Puget Sound ports surrounded by rapidly urbanizing forested watersheds. Commercial non-treaty fishers catch over 3 million salmon each year. In addition, Native Americans harvest more than 3.5 million salmon each year. Most of the state's salmon are harvested as they return to spawn in rivers and streams that feed Greater Puget Sound. The protection of lower elevation private forest lands and riparian areas is necessary for clean water and other factors necessary to sustain salmon runs.

Bald eagles feed off the dead carcasses of migrating salmon. These migratory eagles and year-round resident eagles make up the largest population in the contiguous 48 states.

In addition to the salmon's commercial value, other fish species using Washington's streams and rivers annually provide more than 6 million pounds of food and products worth more than \$10 million. Most of this fish harvest is taken in the Puget Sound area.

Rivers and streams that flow from the forest into estuaries, bays and inlets are also an important component of salt water ecosystems and species habitat. Shell fish gathering is important in Washington for recreational and commercial purposes as well as for cultural tradition. Each year 42 million pounds of shellfish worth \$34 million are gathered from the state's beaches, bays and estuaries.

## Minerals and Geologic Features

Washington's geologic nature is one of catastrophic events frequently spaced on a geologic timetable. The Mount Saint Helens eruption in May 1980 focused national and world attention on Washington. Seemingly a rare event, it was by no means unusual for the area.

The surface of Washington was shaped largely by a number of catastrophic events. In the last 15,000 years these events include three continental ice advances which covered much of the northern portion of the state. The ice advances and retreats carved much of the state's present topography. It reshaped many mountains and valleys and excavated Puget Sound.

Associated with the ice advances were numerous catastrophic floods caused by ice dam breaks on the Columbia and Snake river systems. At one time floods poured more water over central and northeastern Washington than flow in all of the world's rivers today. In a few days they scalped large coolies out of

basalt bedrock and created what was once the world's largest waterfall. The floods poured water hundreds of feet deep across the Columbia Basin and as far south as Salem, Oregon. The floods eroded all soils from large areas in what is now Washington State and deposited silts that today are some of the world's most fertile farm and forest land.

As rivers flowed off the ice and the glaciers receded, some areas were covered in silt, sand and stone hundreds of feet deep. Sand and gravel aquifers and fertile valleys were formed. Deposits of clay, silt, sand and stone were left perched on steepened bedrock, polished smooth by the advancing ice. Rivers were diverted when unstable earth slid off the steepened bedrock. Salt water passages, islands, bays, lakes and ponds were formed as water filled the depressions carved by the ice and floods. The earth's crust fell and rose hundreds of feet as it adjusted to the ice's moving weight. Melting ice raised the sea levels hundreds of feet. Earthquakes raised and lowered the coast and caused subduction of oceanic plates, additional catastrophic landslides and eruptions of the state's five major volcanos.

Besides creating hundreds of harbors and bays, visual splendor and huge aquifers, the recent violent geologic history provided Washington with a wealth of minerals. The state's mineral industry was valued at \$500 million in 1990. Sand, gravel and crushed stone accounted for nearly 40 percent of the value. The state's mining industry employed 2,152 people in 1989. Three fourths of these people are engaged in the production of sand, gravel and industrial minerals. Wages paid to mining workers are generally higher than for other industries. Much of the sand and gravel operations is associated with the development and population growth in the heavily forested and populated Puget Sound basin counties. The expansion around the fringes of the larger cities is occurring on glacial outwash terraces of sand and gravel, making these minerals unavailable for future use. This requires clearing additional nearby forest lands to replace materials and increases transportation costs and fuel consumption.

In addition to leaving scenic grandeur, abundant minerals and rich soils, the glaciers left unstable slopes and erodible soils in their retreat. Following a January 1990 rain storm described in a study by University of Washington geologists as "not particularly unusual," King County — the state's most populous county — documented 150 landslides and serious erosional events. Ninety of those events were studied for cause. The study concluded that only 16 percent of the events were entirely natural. It also stated these types of slide events were occurring more commonly with each storm and may be symptomatic of the rapid population increase. The report went on to say:

" . . . All counties in the Puget Sound region are experiencing similar or greater increases in population. All these people must live and work someplace. Demand for space is pushing development throughout the region, often into potentially hazardous areas . . . with each new house and road, we unavoidably change the way water flows through the landscape . . . increased damage from a single storm is only one sign of this change. The damage is cumulative . . . The consequences did not end when the storm stopped."

Forest Legacy can provide another tool to maintain valuable mineral resource lands as well as protect citizens and resources from inappropriate development and forest land management practices.

## Soil Productivity

Washington is blessed with some of the nation's most productive forest lands. Many of its soils consist of wind and water-deposited sands, silts and volcanic ash. In Western Washington (north of the maximum extent of the continental glaciation) soil patterns are very complex with much local variation. Parent materials range from various bedrock, outwash sands and gravel to glacial tills. Most of these soil types contain Mazama ash in upper horizons. South of the southern extent of continental glaciation - near Olympia -- soils are more influenced by volcanic components.

Site indexes are generally higher in non-glaciated areas. Generally, private non-industrial forest lands contain more higher-site classes since these lands are lower in elevation and more often associated with valley bottoms and low-lying foothills. Low elevation site classes will generally be Douglas Fir Site I to Site III. Site II Douglas Fir soils can be expected to be found widely distributed in most areas below 1,500 feet in elevation. Timber stocking on 40-60-year-old naturally established conifer stands range from 25,000 to 40,000 board feet, Scribner Log Scale per acre.

Lands managed for timber operability must also be evaluated for site operability. Unstable soils in many areas reduce operational flexibility for roads and harvest options. This results in increased costs and some inoperable sites.

## Recreation

Nine out of 10 of Washington's households enjoy at least one form of outdoor recreation. These activities range in popularity from off-road vehicle riding and hunting (26 percent of households) to sightseeing and picnicking (89 percent of households). More than half the households engage in at least one kind of activity using developed sites and 76 percent engage in hiking and walking.

Private forest lands are an important component of the state's available recreation opportunities. They provide the majority of developed recreational facilities and most lands available for hiking, hunting, fishing and other non-developed recreational uses.

In 1989, private facilities provided 48,668 developed camp sites. Public facilities provided 19,808 sites. Private sites increased by 33 percent over the previous seven years while public sites only increased by 16 percent. Generally, the private sector offers more services which are compensated by user fees. Private operators offered 79 percent of the sites with hookups.

The stability of private recreation opportunities over time is of concern. Compared to public facilities, private sites must operate on the economic market and generate a high income rate. Despite a significant increase in sites and operators, developed private recreation site acreage is declining.

Site availability to meet growing population demands is also of concern. Recreation in US Forest Service-managed settings will reach or exceed capacity by 1997. Recreation places become scarcer as natural rural landscapes near urban areas change to residential and commercial areas. From 1982 to 1989, combined public and private sector forest acreage remained stable. Washington's population is expected

to increase by approximately one million people between 1990 and the year 2000. Most of the population growth is expected in areas already experiencing the highest demands for outdoor recreation. Acquisition becomes more difficult as agencies compete with developers for land in urbanizing areas.

According to the *State Interagency Committee for Outdoor Recreation Assessment and Policy Plan for 1990-1995*, the Puget Sound region is responsible for the majority of the state's recreation demand for all recreation activity categories. Of the eleven categories listed, the residents of the region supplied at least 60 percent of the statewide demand for each category.

Urbanization of rural areas also impacts outdoor recreation. More than \$140 million annually is lost due to economic damage associated with pollution and lost recreation opportunities on surface water streams and lakes.

Public agencies also experience more difficulty obtaining maintenance funding for existing sites. As agencies' maintenance budgets shrink, greater demand is placed on private lands. Forest Legacy can maintain and provide recreational opportunities near cities, more access to forest lands and trail greenways between public forest lands.

## Water

Washington's precipitation varies from seven inches in the Columbia Basin's desert areas to 140 inches in the Olympic Peninsula's rain forests. Forests occur on both sides of the Cascade Mountains in areas where annual rainfall exceeds 13-inches.

Water quantity can be an issue in wet and dry areas of the state. Most high flow periods for rivers and streams in Western Washington are associated with winter rainfall. Western Washington's summers are relatively free of rain. Wet season rainfall is captured in many reservoirs for hydroelectric power, domestic and industrial use. A dry winter can create power shortages and domestic water rationing the following summer. In 1988, 1989 and 1992 many large metropolitan areas in Western Washington rationed water.

Often winter storm events result in very high rainfall levels on the state's west side. Winter storms in Western Washington usually bring warm moist Pacific Ocean air often producing rain-on-snow events in the lower mountains and foothills. These result in extreme rates of runoff and very high peak flow periods in rivers and streams. Heavy rains and rain-on-snow events are often associated with mass wasting of soils, debris flows and flooding. Winter extreme peak flow events also silt up critical spawning beds, destroy in-stream habitat components and interfere with normal fish movement.

The growing period for Washington's forests are spring and the summer dry season. Many of Washington's forest soils are dominated by sand and gravel. These soils can reach drought conditions quickly without precipitation. Since not all of the winter's rapid runoff is absorbed by plants or soil or captured for later human use, Washington commonly goes quickly from very wet to very dry.

Due to Washington's recent geologic history, storm-related slide events are natural and common. However, human activities can increase their severity and frequency. Areas that are developed or converted to agriculture experience more rapid runoff, scouring, stream channelization, pollution,

excessive river and stream siltation and exacerbation of lowland flooding. Since vegetation is dormant in the winter, most damage in forested areas is associated with poor road construction techniques, soil disturbance and compaction during harvest. Another serious consideration in areas of unstable soils and steep smooth bedrock, is the diminished capacity of the soil to hold onto the root structure.

In Eastern Washington maximum stream flows are associated with snow pack melting in higher elevations. These lands are usually owned by the national forests, state lands, forest industry or are zoned for forestry. Much of the runoff in Eastern Washington is captured behind hydroelectric dams for power generation and agricultural irrigation. Eastern Washington's streams and rivers also are important for resident and anadromous fish populations. Important considerations in lower elevation Eastern Washington forests are sustaining soil moisture, controlling in-stream water temperature and conserving water quality. As in Western Washington, the vegetation maintenance in riparian areas, proper road construction and harvest techniques is of primary importance.

Maintenance and wise forest management are the most effective ways to maintain acceptable water quality, fish and wildlife habitat, normal runoff patterns and timing in and below forest lands. Forest land use is considered the best way to protect important watersheds where all use is not restricted. Keeping critical areas in forestry through Forest Legacy -- and other incentives -- and managing through other Stewardship principles can protect water quality, recharge soil, streams and aquifers and moderate flow patterns. In addition, Forest Legacy can provide another positive working tool in establishing Wild and Scenic River Areas.

## Cultural and Historic Uses of Forest Resources

Washington's forests are at the center of the state's history, identity and culture. Before the arrival of European settlers many native peoples lived directly off of the forests' resources. The salmon and the cedar were means for survival and integral parts of the peoples' cultural and spiritual bonds to the land and each other. The native peoples were and are skilled fishers, hunters and plant collectors as well as skilled artisans and technicians. Many bands were known for wood working. Western redcedar was used to build large plank houses with carved house posts. Dugout canoes were built for travel and hunting whales at sea. They built cedar boxes and used cedar bark to produce baskets, rope, nets and clothing.

At the time of historic contact there was a large Native American population in Washington. Although there are hundreds of recorded prehistoric sites, much of the state has not been surveyed. Many known sites have not been inventoried or protected from damage. It is important to preserve even well-studied sites as new knowledge leads to new discoveries. Most sites are located at low elevations along shorelines and near ponds and water courses. According to the state's Office of Archaeology and Historic Preservation report, "Resource Protection Planning Process - Southern Puget Sound Study Unit," the major threats to prehistoric sites are construction and development. Buying development rights to protect sites is one of the goals stated in the report. Protecting prehistoric archeological sites also can protect other forest resources.

While exploration and expeditionary marine mammal hunting attracted the first Europeans and outpost settlements, forests provided the basis for Washington's permanent settlement and commerce. Before statehood, Washington's coastal communities supplied ship masts and lumber for California markets. In the year statehood was granted, annual timber production exceeded one billion board feet.

By the turn of the century Washington was producing 2 billion board feet a year. Timber production increased to 4 billion board feet annually in the decade before World War I and to more than 7 billion board feet annually by the mid-1920s. During the Great Depression timber production fell below pre-World War I levels, recovered slowly and did not hit the 1925 level of 7 billion board feet again until 1969. During the seventies timber production fluctuated between 6.2 billion and 7.8 billion board feet. The early 1980s recession dampened the harvest again – 4.9 billion board feet in 1981 – and peaked at 7 billion in 1987 and 1988. State timber harvest in 1991 totaled 5.1 billion board feet, the lowest level since 1981 and the third lowest in 30 years.

## Timber Production, Ownership Patterns and Trends

Timber was commercially harvested in 35 of Washington's 39 counties in 1990. Timber provides employment for 58,500 full time employees in Washington and a \$1.5 billion payroll. Timber provides \$200 million in revenue to Washington's counties and provides over \$150 million to public schools and universities. In 1991, total recorded timber harvest was 5.1 billion board feet. County harvest levels range from 2,000 board feet to 475 million board feet. The eight counties with the highest harvest levels are in Western Washington. Total recorded timber harvest off private lands in 1991 was 3.6 billion board feet, or 71 percent of the state's total.

Washington contains 16.9 million acres of timber lands. This includes 5 million acres of federal ownership, 2 million acres of state ownership, 4.6 million acres of forest industry lands and 3.2 million acres of non-industrial private timber lands. Total non-industrial lands are estimated at more than 4 million acres when woodlands and small acreage parcels are included.

By a wide margin forest industry historically provides the greatest timber volume. In descending order of volume in 1980, national forests were the second largest provider, state lands third largest and non-industrial forest lands fourth. Due to recent federal timber policy, log prices and the listing of the northern spotted owl as an endangered species, harvests from state and federal lands declined drastically while harvests from non-industrial forest lands increased 83 percent. Since 1988, non-industrial private lands surpassed state and federal lands in timber supply and are now the second largest provider by a wide margin over third place state lands and fourth place national forest lands.

Much harvest from non-industrial forest lands in high population growth areas is a result of land clearing for development. Non-industrial timberland ownership shrank from 4.5 million acres in 1970 to 3.2 million acres in 1990. This constitutes an annual loss of non-industrial forest lands of 66,000 acres per year. Between 1987 and 1990 there was a net loss of 129,000 non-industrial acres per year. The average non-industrial parcel is 30 acres in Western Washington and 100 acres in Eastern Washington. Many county officials fear that conversion harvest rates are actually higher than reported because some operators do not apply for conversion harvest permits in order to evade forest land conversion tax payments and county development ordinances.

In light of urban expansion and harvesting shifts from public to non-industrial forest lands, private forest land owners are faced with conflicting choices of urban development and the needs of forest resources (continuing fiber production, recreation, fish and wildlife habitat and watershed). Many non-industrial landowners are also very concerned about their future ability to manage forest resources in an increasingly restrictive regulatory environment. Traditionally non-industrial forest lands produced timber



far below potential levels which could be achieved using intensive timber management. Due to increased population growth, high timber prices and an unpredictable regulatory environment, increased harvest levels should not be viewed as indicators of a long term stable trend in timber production from non-industrial forest lands.

Even landowners -- who are dedicated to long-term private forest land stewardship -- find it difficult to remain active in forest management in the face of development pressures. Regulatory measures intended to keep lands in resource management often have a reverse effect as landowners exercise available conversion options. Many landowners are unwilling to forego a lifetime's work and the financial security of full market value for their forest lands. With Forest Legacy some landowners will not be forced to choose between their financial and forest resource stewardship goals.

### Forested Areas Threatened by Conversion

Between 1980 and 1990 Washington's population grew by 734,339 -- a growth rate of 17.8 percent. Only eight states experienced a higher growth rate. Fifteen counties recorded population increases of 10 percent or higher during the decade. Eleven of the fastest-growing counties had growth rates greater than 20 percent. Forest lands are the dominant land type -- except in developed areas -- in all but two of the 15 counties. The two non-forested counties had the second and fourth lowest growth rates of the 15 high-growth counties. Five of the state's top 10 private timber harvesting counties had population growth of 18 percent or more in the last decade. These included the state's three most populated counties.

More than 75 percent of Washington's population growth occurred in five counties. Four -- King, Snohomish, Pierce and Thurston -- surround Puget Sound. The fifth is Clark County in southwest Washington. The five counties are listed in the top 10 of at least one of the timber harvest statistics categories "All Ownerships," "Total Private" and "Small Private". These five counties accounted for 19 percent of the state's 1991 timber harvested from all ownerships. They accounted for 21 percent of the total private land timber harvest and 24 percent of timber harvested from ownerships of less than 1,000 acres. Three counties are in the top five for timber harvested on "small private," ownerships of less than 1,000 acres.

Washington's population growth is concentrated in the Puget Sound Basin and Southwest Washington. Rural areas in these locations are largely forested. The majority of development results in the conversion of private forest lands in large and small ownerships. Because this growth is concentrated around cities and towns, the majority of forest lands being converted are lower elevation, high site lands.

Between 1990 and 2000 the state's population is expected to increase by approximately one million people. Although King County -- the state's most populated county -- had the greatest net population increase during the 1980-1990 decade, growth rates in the counties surrounding King County were greater. This urban and suburban expansion into the counties surrounding King County is expected to continue and accelerate.

In the 1980s, serious traffic congestion problems developed in King County and its two neighbors, Snohomish and Pierce counties. Suburban growth effectively connected Everett, Seattle and Tacoma -- the three largest cities in Snohomish, King and Pierce counties -- into one large metropolitan area.

Unincorporated areas and small outlying cities with resource-based economies grew into medium-sized cities as bedroom communities for the larger cities. Federal Way grew from an unincorporated area between Seattle and Tacoma in 1980, to the state's sixth largest city.

As buildable land becomes scarce and commuting becomes more difficult, businesses will choose to develop rural satellite facilities rather than expand urban facilities. This greatly increases rural area populations over a very short period of time. Urban and suburban populations now are looking at forest lands more for environmental, aesthetic and recreational values than for providing jobs and commodities. Rather than confront non-supportive neighbors while trying to manage valuable lands for forestry, small forest landowners and industrial forestry companies often choose to sell lands or create high density developments near existing communities.

In preparation for a state land acquisition project in 1990 and 1991 the Department of Natural Resources used its Geographic Information System to map city and county land use zones in forested counties with high population growth rates. Land uses that were mapped were urban zones, resource lands (where minimum parcel sizes favor forestry or agriculture) and rural transition lands (where smaller parcel sizes allow development mixed with forestry and agriculture). Most of Washington's growth is occurring on these rural transition lands.

In rural transition and resource zones, high forest production potential soils were mapped. Considerations for high production potential were: 1) a minimum Douglas fir or Western hemlock 50-year site index of 105 or higher, 2) low or insignificant mass wasting potential and 3) well- or moderately well-drained soils. On aggregate, in the five counties that absorbed 75 percent of the state's population increase, over half of the land in the rural transition zone met the high forest production potential. Two of the three criteria judged are also favorable factors in selecting land for development. Even within growth areas, development pressures are the most severe on parcels with high forest production potential.

Local clearing, grading and building ordinances may be able to mitigate some soil stability and drainage concerns while converting lands with low forest production potential. While less valuable for timber production, converting lower production potential lands will still have an adverse impact on non-timber resources, such as fish, wildlife and aesthetics. In these areas conversion of lower production potential forest lands also will cause public contention on urban/forest interface issues and social-political conflicts on management of the remaining rural transition zone forest land. Forest Legacy can help maintain productive timber management and protection of non-timber forest resources on forest lands in rural transition zones surrounding urban areas.